I Claim:

1. A method for automatically recognizing or verifying objects in a digital image, said method comprising:

accessing digital image data containing an object of interest therein;

detecting an object of interest in said digital image data;

normalizing said object of interest to generate a normalized object representation;

extracting a plurality of features from said normalized object representation; and

applying each extracted feature to a previously-determined additive probability model to determine the likelihood that the object of interest belongs to an existing class.

2. The method according to claim 1, wherein said previously-determined additive probability model is an Additive Gaussian Model that decomposes the appearance of an object into components corresponding to class and view.

3. The method according to claim 1, further comprising:

selecting an existing class for said object of interest based on said likelihood; and

re-calculating an additive probability model for the selected class using a feature value of the object of interest.

4. The method according to claim 1, wherein said object of interest is a face and said method performs face recognition.

5. The method according to claim 1, wherein said object of interest is a face and said method performs face verification based on said likelihood.

6. The method according to claim 1, wherein said object of interest is a face and said step of detecting an object of interest detects facial features in said digital image data.

7. The method according to claim 6, wherein said step of detecting an object of interest utilizes early rejection to determine that an image region does not correspond to a facial feature.

8. The method according to claim 1, wherein said object of interest is a face in a digital photo.

9. The method according to claim 1, further comprising:

generating an additive probability model for each of a plurality of classes based on feature values for objects belonging to said classes.

10. The method according to claim 9, wherein said step of generating an additive probability model for a particular class is repeated each time a detected object of interest is added to the corresponding class.

11. The method according to claim 9, wherein said step of generating an additive probability model clusters examples belonging to a single class so as to generate multiple additive probability models for each class identity.

12. The method according to claim 9, wherein said step of generating an additive probability model computes a posterior distribution for a feature value mean from at least one example feature value.

13. The method according to claim 12, wherein said additive probability model models variance of said feature value mean.

14. The method according to claim 13, wherein said variance of said feature value mean approaches zero as more examples are associated with the corresponding class.

15. The method according to claim 1, further comprising:

executing a training stage to identify a set of independent features that discriminate between classes.

16. The method according to claim 1, wherein said digital image data represents a digital photo.

17. An apparatus for automatically recognizing or verifying objects in a digital image, said apparatus comprising:

a digital image data input for accessing digital image data containing an object of interest therein;

an object detector for detecting an object of interest in said digital image data;

a normalizing unit for normalizing said object of interest to generate a normalized object representation;

a feature extracting unit for extracting a plurality of features from said normalized object representation; and

a likelihood determining unit for applying each extracted feature to a previously-determined additive probability model to determine the likelihood that the object of interest belongs to an existing class.

18. The apparatus according to claim 17, wherein said previously-determined additive probability model is an Additive Gaussian Model that decomposes the appearance of an object into components corresponding to class and view.

19. The apparatus according to claim 17, wherein said likelihood determining unit selects an existing class for said object of interest based on said likelihood; and re-calculates an additive probability model for the selected class using a feature value of the classified object of interest.

20. The apparatus according to claim 17, wherein said object of interest is a face and said apparatus performs face recognition.

21. The apparatus according to claim 17, wherein said object of interest is a face and said apparatus performs face verification based on said likelihood.

22. The apparatus according to claim 17, wherein said object of interest is a face and said object detector detects facial features in said digital image data.

23. The apparatus according to claim 22, wherein said object detector detects an object of interest utilizing early rejection to determine that an image region does not correspond to a facial feature.

24. The apparatus according to claim 17, wherein said object of interest is a face in a digital photo.

25. The apparatus according to claim 17, wherein said apparatus generates an additive probability model for each of a plurality of classes based on feature values for objects belonging to said classes.

26. The apparatus according to claim 25, wherein said apparatus repeats generating an additive probability model for a particular class each time a detected object of interest is added to the corresponding class.

27. The apparatus according to claim 25, wherein said apparatus generates an additive probability model by clustering examples belonging to a single class so as to generate multiple additive probability models for each class identity.

28. The apparatus according to claim 25, wherein said apparatus generates an additive probability model by computing a posterior distribution for a feature value mean from at least one example feature value.

29. The apparatus according to claim 28, wherein said additive probability model models variance of said feature value mean.

30. The apparatus according to claim 29, wherein said variance of said feature value mean approaches zero as more examples are associated with the corresponding class.

31. The apparatus according to claim 17, wherein said apparatus executes a training stage to identify a set of independent features that discriminate between classes.

32. The apparatus according to claim 17, wherein said digital image data represents a digital photo.